

AMENDMENTS TO THE CLAIMS

1-12. (Cancelled)

13. (Currently Amended) A heat exchanger comprising:

a plurality of tubes through which refrigerants flow, the tubes being spaced away from each other; and

a plurality of fins spaced away from each other at a predetermined distance, each of the fin including:

a plurality of fin collars through which the tubes is-are perpendicularly inserted, a seat disposed around an outer circumference of the fin collar, and

a plurality of peak and valley portions alternately disposed in a first direction at an area defined between the tubes, the peak portions and the valley portions extending along a second direction, inclined angles of portions connecting the peaks with the valleys being different from each other, the peak portions being non-coplanar and the valley portions being substantially coplanar, an interior angle of each of two immediately adjacent peak portions centermost to the corresponding one of the fin collars being different from an interior angle of each of the other peak portions immediately adjacent to the two immediately adjacent peak portions centermost to the corresponding one of the fin collars.

14. (Currently Amended) The heat exchanger according to claim 13, further comprising

a seat disposed around an outer circumference of the corresponding one of the fin collars;

an airflow guide portion formed extending from an outer circumference of the seat to the peak ~~portions~~ portions at a predetermined angle to prevent air from getting out of a circumference of a corresponding one of the tubes.

15-19. (Cancelled)

20. (Currently Amended) A heat exchanger comprising:

a plurality of tubes through which refrigerants flow, the tubes being spaced away from each other; and

a plurality of fins spaced away from each other at a predetermined distance, each of the fins including:

a plurality of fin collars through which tube is perpendicularly inserted,

a plurality of seats, each of the seats being disposed around an outer circumference of a corresponding one of the fin collars,

a plurality of peak and valley portions alternately disposed in a first direction at an area defined between the tubes, the peak portions and the valley portions extending along a second direction, one of the valley portions being located between two immediately adjacent peak portions centermost to the corresponding one of the fin collars, and

a plurality of inclined portions extending from an outer circumference of a corresponding one of the seats to at least two of the peak portions, each of the two of the peak portions being respectively immediately adjacent to the two immediately adjacent peak portions centermost to the corresponding one of the fin collars ~~the peak portions~~.

21. (Currently Amended) The heat exchanger according to claim 20, wherein the seat is located on a horizontal plane lower than that where the valley portions are located and the valley portions are coplanar.

22. (Currently Amended) A heat exchanger comprising:
a plurality of tubes through which refrigerants flow, the tubes being spaced away from each other; and
a plurality of fins, each of the fins including: having
a plurality of fin collars through which the tubes are perpendicularly inserted; and
a plurality of peak and valley portions that are alternately disposed in a first direction at an area defined between the tubes, the peak portions and the valley portions extending along a second direction, two immediately adjacent peak portions centermost to a corresponding one of the fin collars being substantially coplanar and having a height different from the other peak portions immediately adjacent to the two immediately adjacent peak portions centermost to the corresponding one of the fin collars, heights and depths of the outer peak and valley portions being different from those of the inner peak and valley portions.

23. (Original) The heat exchanger according to claim 22, wherein the adjacent tubes are inserted into the fin collars in a zigzag shape.

24. (Original) The heat exchanger according to claim 22, wherein a ratio of the depths of the valley portions to the heights of the peak portions is equal to or less than 0.7.

25. (New) The heat exchanger according to claim 22, wherein each of the fins is a corrugate fin having an inversed W-shape.

26. (New) The heat exchanger according to claim 22, wherein an interior angle of each of the two immediately adjacent peak portions centermost to the corresponding one of the fin collars is different from an interior angle of each of the other peak portions immediately adjacent to the two immediately adjacent peak portions centermost to the corresponding one of the fin collars.

27. (New) The heat exchanger according to claim 22, wherein the valley portions are substantially coplanar.

28. (New) The heat exchanger according to claim 27, wherein the height of the two immediately adjacent peak portions centermost to the corresponding one of the fin collars is lower than the other peak portions immediately adjacent to the two immediately adjacent peak portions centermost to the corresponding one of the fin collars.

29. (New) The heat exchanger according to claim 22, wherein each of the fins is symmetrical with respect to one of the valley portions between the two immediately adjacent peak portions centermost to the corresponding one of the fin collars.

30. (New) The heat exchanger according to claim 22, wherein each of the fins further comprises:

a plurality of seats each disposed on a lower end of an outer circumference of the fin collars; and

an airflow guide portion formed extending from an outer circumference of each of the seats to the peak portions at a predetermined angle to allow air to flow along an outer circumference of the tubes.

31. (New) The heat exchanger according claim 30, wherein the seats are substantially coplanar to the valley portions.

32. (New) The heat exchanger according to claim 22, wherein the two immediately adjacent peak portions centermost to the corresponding one of the fin collars extend along the first direction within the area defined between the tubes in the first direction.

33. (New) The heat exchanger according to claim 13, wherein the two immediately adjacent peak portions centermost to the corresponding one of the fin collars extend along the first direction within the area defined between the tubes in the first direction.

34. (New) The heat exchanger according to claim 20, wherein the inclined portion extending from an outer circumference of the corresponding one of the seats to one of the two of the peak portions is symmetrical to the inclined portion extending from the outer circumference

of the corresponding one of the seats to the other one of the two of the peak portions with respect to the one of the valley portions.